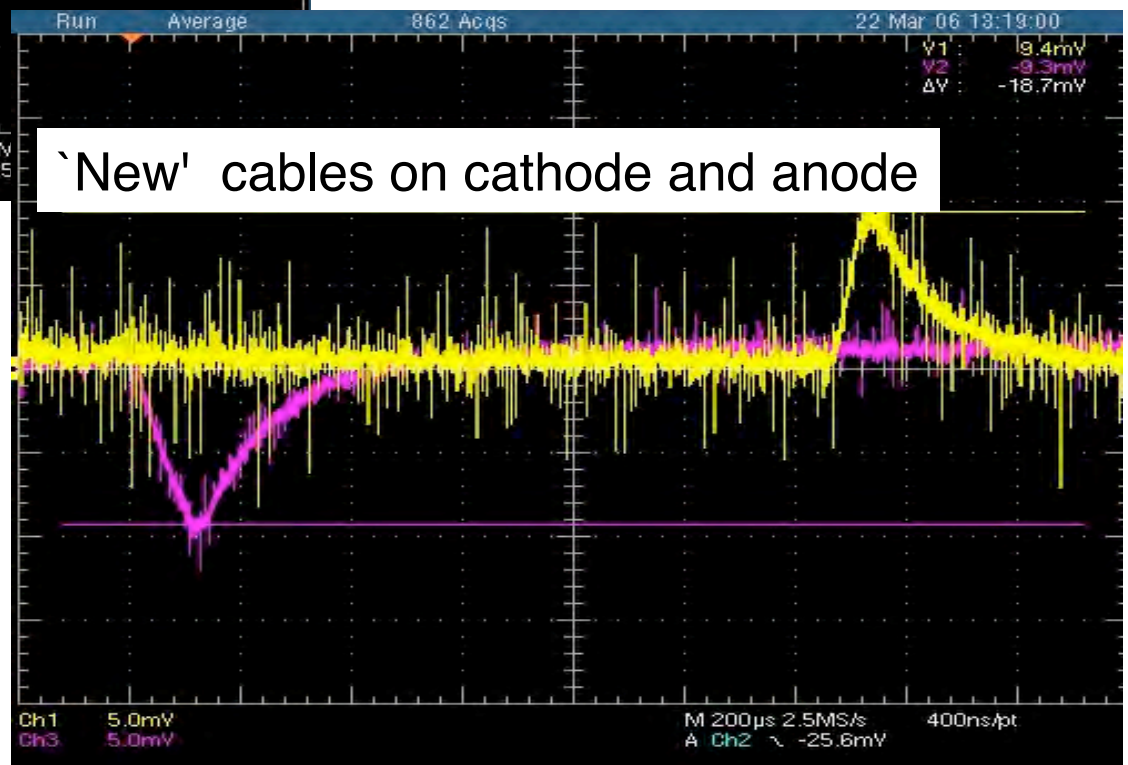
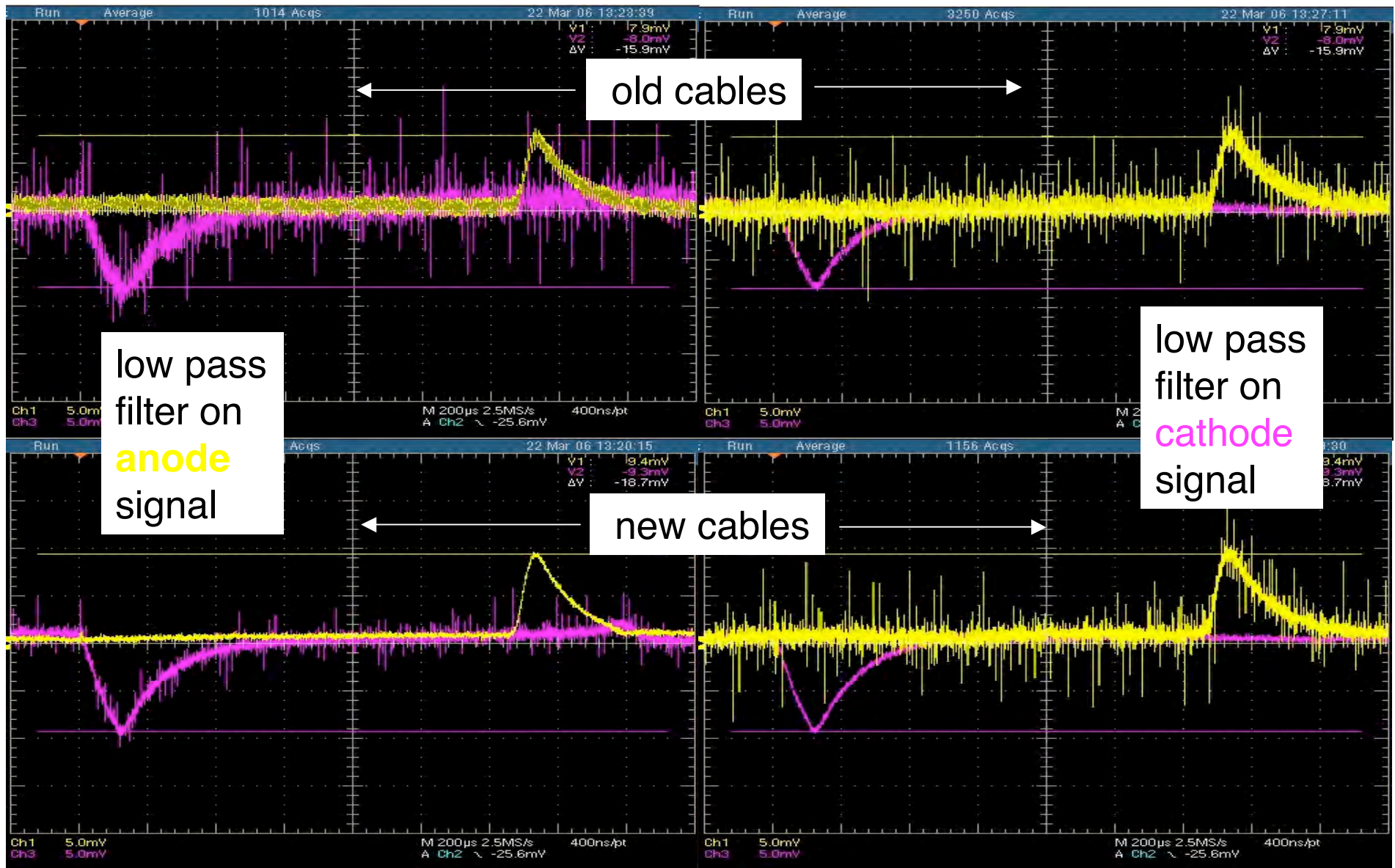


Test of new PrM readout cable proposed by Walter..3/22/06 (lower capacitance) gives larger signal (by 15%) and less noise.



I take noise as the width of the full band (ignoring the high frequency spikes). The signals are averaged 2 times only and there is no low-pass filter so this high frequency noise is visible - this disappears on averaging more times (see end re high freq. spikes).

showing a) effect of simple low-pass filter and b) the effect of new cables;
the effect of the new cables adds to the effect of the filter



The `old' cathode cable was RG58C/U MIL 17C 17/28 Type IIA;
the new cable is RG180 MIL-C-17G M17/95 and carries the name
Surprenant Cable & Wire;

The `old' anode cable was Reynolds 167-2669;

John Krider measured the lifetime in rapid succession with:

new cables: 4.2 milliseconds

new anode, old cathode: 4.3 milliseconds

old cables: 4. 2 milliseconds

These values have an uncertainty larger than their spread and we
conclude that the new cables give less noise but do not affect the
lifetime measurement in a systematic way.

The high frequency noise has been traced (by WJ) to the readout of the ion gauge in the cryostat. Since we don't need this readout when there's liquid present, we've just turned it off. Below is how the signals averaged 2 times now (3/27/06) look.

